

## ABSTRACT

The invention concerns an arrangement for determining the concentration of glucose in a tissue fluid. In the microdialysis technology used for this purpose, perfusate-containing glucose is transported in intermittent delivery pulses through a microdialysis probe inserted into the tissue fluid and dialysate obtained in this process is passed to a measuring cell to record the glucose content. In order to achieve an exact determination of glucose even with a reduced dialysis period, it is proposed that the starting content of glucose in the perfusate is adapted to the glucose content of the tissue fluid by means of a control device in accordance with a command variable derived from the measurement signals of the measuring cell. When the control deviation is negligible the momentary starting content of glucose in the perfusate can be determined as a measure for the glucose content of the tissue fluid.